## **CLAIMS**

- 1. Method of fastening a guard rail (60) to a concrete slab (100) by means of a self-expanding and self-undercutting bolt (1, 1', 1") comprising a dowel (10) having expanding lugs (17) and an expansion core (20, 23), the method comprising a phase consisting in drilling a hole (103', 103") in the slab, a phase consisting in driving the bolt in to a desired depth (E1 + E2) independent of the depth of the hole, a dynamic tightening phase (h) resulting in the formation of the undercut and a static tightening phase of the guard rail.
- 2. Method according to claim 1, in which the dynamic tightening is carried out by relative screwing of the dowel (10) and the expansion core (20) to a given depth (h).
- 3. Method according to claim 2, in which the dowel (10) is screwed on to the expansion core (20) until the fracture of incipient fracture means (15).
- 4. Self-expanding and self-undercutting guard rail bolt (1) for carrying out the method of claim 1, comprising a dowel (10) and a counter-dowel (20) screwed together by means of their screwing ends (12, 22), the dowel (10) comprising at its fastening end (11) a guard rail fastening head (13) designed (14) to be driven in rotation and rigidly connected at its screwing end (12) by means of incipient fracture means (15) to a ring (16) provided with expansion lugs (17), the counter-dowel (20) comprising at its other expansion end (21) an expansion cone (23) and anti-rotation means (24), the expansion lugs (17) comprising means (170) for forming an undercut.
- 5. Tool (2) for fastening a guard rail bolt (1), comprising means (32, 50, 39, 35) for driving it in rotation and complementary means (31, 34) for controlling the driving depth of the bolt (1).
- 6. Tool according to claim 5, provided with a spindle (39) fixed in rotation with a cylindrical drive sleeve (35) designed to drive the bolt (1) in rotation.

- 7. Tool according to claim 6, in which the sleeve (35) is guided in translation by a stop guide (31) and is returned by the action of a spring (38) to a pin (14) for driving the bolt (1) in rotation.
- 8. Tool according to claim 7, in which the length (e2) of the sleeve (35) is equal to the length (b) of the spindle (39) increased by the length t of the pin (14), but reduced by the minimum length (l) of the spring (38).
- 9. Tool according to one of claims 7 and 8, in which the length (e1) of the lower end (34) of the stop guide (31) is a function of the thickness (E2) of the fastening nut.